



# Electric Utility Interconnection

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# Presentation Objective

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- A Commission-approved process exists for utilities and customer to follow
- Information about this interconnection process is available on the Commission's website
- Commission Staff are available to help if you have questions/problems during the interconnection process

# When is it necessary to interconnect with the utility?

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- You must properly interconnect with your utility if you plan to operate on-site generation while connected to the utility distribution system.
  - Also called parallel operation

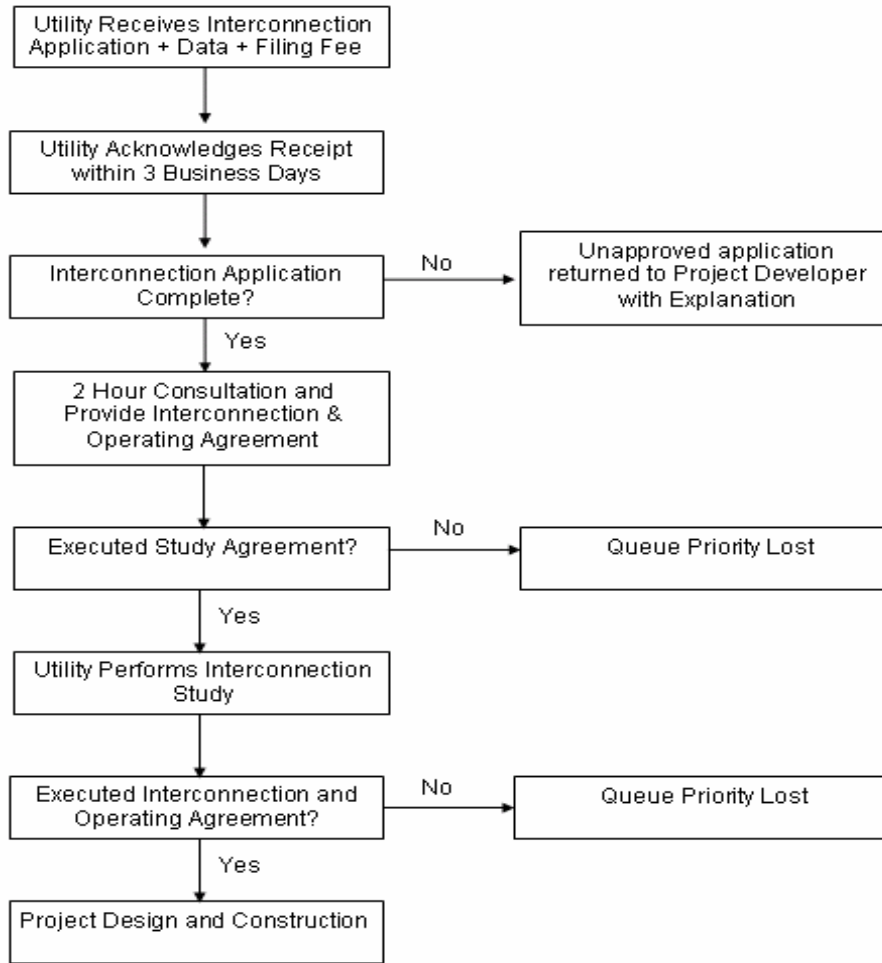


# What are Generator Interconnection Procedures?

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- The Commission approved Generator Interconnection Procedures for all regulated utilities in August, 2004.
- Purpose is to provide a process for expeditious interconnection to the utility electric system that is both safe and reliable.
- Includes process flowchart, timelines, technical requirements, application, etc...

# The Electric Utility Interconnection Process



- MPSC approved Interconnection Procedures for regulated utilities

# Interconnections Under New Procedures

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(Includes completed and pending interconnections through November 2006)

<b>Aggregate Generator Output</b>	<b>Number of Projects</b>
Up to 10 kW	20
Greater than 10 kW but less than 30 kW	2
30 kW or more but less than 150 kW	0
150 kW or more but less than 750 kW	3
750 kW or more but less than 2 MW	10
2 MW or more	6
<b>Total Projects</b>	<b>41</b>

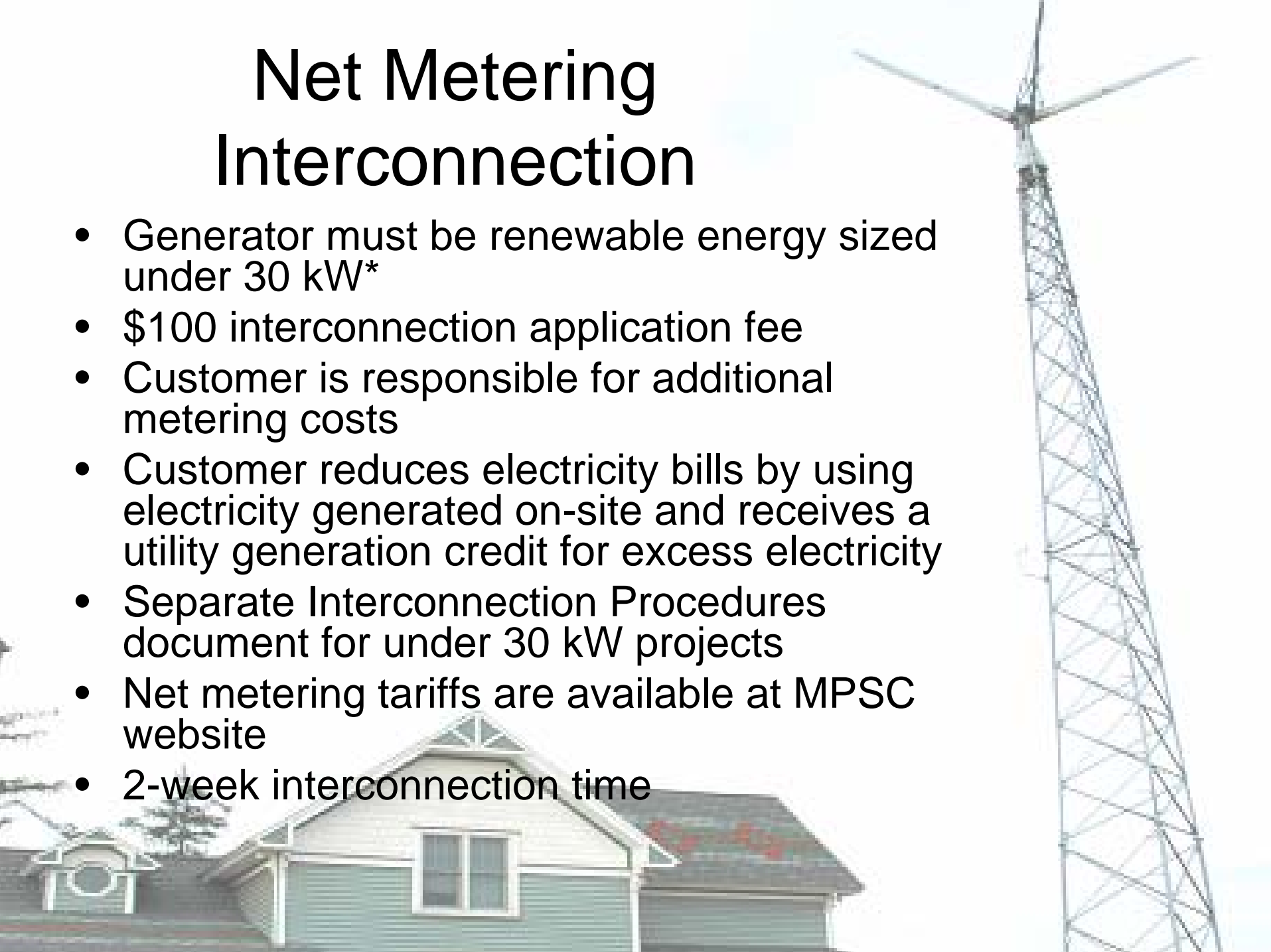
# Non-Flow-Back Interconnection

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- Least expensive type of interconnection
- \$100 interconnection application fee
- Any excess electricity exported to the utility will not be measured

# Net Metering Interconnection

- Generator must be renewable energy sized under 30 kW\*
- \$100 interconnection application fee
- Customer is responsible for additional metering costs
- Customer reduces electricity bills by using electricity generated on-site and receives a utility generation credit for excess electricity
- Separate Interconnection Procedures document for under 30 kW projects
- Net metering tariffs are available at MPSC website
- 2-week interconnection time





A photograph of a wind farm with several large white wind turbines in a grassy field under a blue sky. A group of people is standing near the base of one of the turbines in the foreground.

# Generator Interconnection Size Categories 30 kW and Larger

- Separate sets of Interconnection Procedures documents for each size category:
  - 30 kW or more but less than 150 kW
  - 150 kW or more but less than 750 kW
  - 750 kW or more but less than 2 MW
  - 2 MW or more

# Generators 30 kW and Larger

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- Application fee ranges from \$100 to \$500
- Interconnection costs could be a significant expense
- 4 – 18 week interconnection time
- Completing interconnection can take longer than interconnection process schedule
- Need to find a market for the excess electricity
- May have to pay utility for standby power

# Interconnection Process

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- Application Phase
  - Contact your utility
  - Decide on the size and type of generation
  - Complete and submit the interconnection application and filing fee
    - The installer may complete the application for you
    - The utility will acknowledge the application 3 business days after it is received
    - If the application is not complete, the utility will let you know what information is missing

# Interconnection Application

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- Contact your utility to get a utility specific version of the application.
- A copy of a generic application is available on the MPSC website

# New web pages on Customer Generation

(<http://www.michigan.gov/customergeneration>,

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## What is Customer Generation?

Typical customer electric generation technologies include solar photovoltaic systems, wind turbines, and on-farm anaerobic digestion systems. These systems are located on the customer's premises.

> [More](#)

## Spotlight

- [MPSC Starts Investigation into Interconnection of Independent Power Projects with Electric Utilities](#)

## Utility Interconnection Information

- [MPSC Interconnection Standards](#)
- [Net Metering](#)
- [Utility Interconnection Contacts](#)
- [Generic MPSC-Approved Generator Interconnection Requirements](#)

## Find Your Utility

- [Utility Addresses & Contacts](#)
- [Service by City/Town](#)
- [Service by Township/County](#)
- [Service Area Map](#)

# Interconnection Process

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- Utility Phase
  - Process provides for up to 2 hours of consultation with the utility
  - Utility will provide a copy of the Interconnection & Operating Agreement for you to review and sign
  - Utility will determine if an Interconnection Study is necessary
    - If study is necessary, utility will prepare a Study Agreement for you to sign

# Interconnection Process

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- Final Phase
  - Installation
  - Testing
  - Operation
    - Customer must provide the utility 5 days notice of when the project will be ready for inspection, testing, and approval.



# Interconnection Costs Summary

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- Filing Fee
  - \$100 for under 30 kW projects and up to \$500 for larger projects
- Engineering Study Fee
  - No study is typically necessary for projects under 30 kW
  - Study fee will not exceed the lesser of 5% of total project cost or \$10,000
- Meter upgrades for net metering
- Utility system upgrades necessary for interconnection
  - Typically not necessary for projects under 30 kW
- Some utilities charge a fee for witnessing operational tests and inspections



# What's new in utility interconnection?

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- The Commission completed an interconnection investigation at the end of February.
  - Immediate Changes:
    - Utilities will file interconnection reports every 6 months
    - Utilities are strongly encouraged to educate the public on interconnection procedures (website information, conferences, etc...)

# What's new in utility interconnection?

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- Changes that must await rulemaking procedure
  - Utilities acknowledge receipt of application in writing
  - Utilities must notify applicant within 10 days of receipt whether application is complete
  - Informal waiver process
  - Designation of a specific utility interconnection project manager for each interconnection application
  - Pre-application meeting for large interconnections

# What's new in utility interconnection?

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- Workgroups tasks:
  - A simplified approach to net metering for inverter based systems smaller than 10 kW
  - Faster and less complex interconnection procedures for 10 kW and smaller



# What's new in utility interconnection?

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- For 30 kW and larger interconnection projects, the Commission has established a workgroup to with the following major goals:
  1. Identify reasonable and achievable time deadlines
  2. Propose a system for determining whether interconnection costs are reasonable, actual costs
  3. Develop criteria for utilities to use to identify areas of opportunity on their systems

# Timeline for Change

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- Net metering changes report to Commission by end of May 2007
- All other proposed changes due to the Commission by end of September 2007
- Many of these changes will require formal rulemaking

# MPSC Utility Interconnection Staff

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